

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended): A stabilizer system for a suspension system, comprising:
first and second piston-cylinder assemblies each comprising a set of variable chambers, wherein at least one of the first and second piston-cylinder assemblies comprises a spring assembly, wherein the set of variable chambers have inversely variable volumes, wherein each of the first and second piston-cylinder assemblies comprise a closed cylinder, a piston assembly movably disposed in the closed cylinder, and at least first and second chambers of the set of variable chambers disposed on opposite sides of the piston assembly, wherein the piston assembly for at least one of the first and second piston-cylinder assemblies comprises first and second pistons disposed about an intermediate chamber; and

first and second conduits each coupled to a desired chamber from each set of variable chambers;

wherein the first and second piston-cylinder assemblies are configured to stabilize first and second movable suspension members without active control.

2. (cancelled):

3. (cancelled):

4. (currently amended): The stabilizer system of claim 1~~claim 3~~, wherein the desired chambers comprise inverse pairs of the first and second chambers from the sets of variable chambers.

5. (currently amended) The stabilizer system of claim 1~~claim 3~~, wherein at least one of the first and second chambers comprises a linkage member having first and second ends, the first end coupled to the piston assembly and the second end extending through a wall of the closed cylinder for coupling to a desired one of the first and second movable suspension members.

6. (cancelled):

7. (currently amended): The stabilizer system of claim 1~~claim 6~~, wherein the intermediate chamber is configured to compensate for volume differentials between first and second pairs of the desired chambers coupled via the first and second conduits, respectively.

8. (currently amended): The stabilizer system of claim 1~~claim 6~~, wherein the intermediate chamber comprises the spring assembly.

9. (currently amended): The stabilizer system of claim 1~~claim 6~~, wherein at least one of the first and second pistons is fixed to a linkage member extending through a wall of the closed cylinder for coupling to a desired one of the first and second movable suspension members.

10. (currently amended): The stabilizer system of claim 1~~claim 2~~, wherein the first and second piston-cylinder assemblies comprise a plurality of closed cylinders each

comprising a piston assembly movably disposed therein and first and second chambers of the set of variable chambers disposed on opposite sides of the piston assembly.

11. (original): The stabilizer system of claim 10, wherein the desired chambers for each of the first and second conduits comprise a desired pair of the first chambers.

12. (withdrawn): The stabilizer system of claim 11, comprising a variable volume chamber assembly disposed along each of the first and second conduits.

13. (withdrawn): The stabilizer system of claim 12, wherein the variable volume chamber assembly comprises a diaphragm.

14. (withdrawn): The stabilizer system of claim 12, wherein the variable volume chamber assembly comprises a spring-loaded piston-cylinder assembly.

15. (original): The stabilizer system of claim 1, wherein the set of variable chambers comprise a fluid.

16. (original): The stabilizer system of claim 1, wherein the set of variable chambers comprise a gas.

17. (currently amended): A vehicle suspension stabilizer, comprising:
a plurality of piston-cylinder assemblies comprising variable chambers, a spring assembly, and linkage members configured for coupling to movable suspension members, wherein multiple sets of the variable chambers are passively fluidly coupled to distribute forces between the movable suspension members;

wherein each of the plurality of piston-cylinder assemblies comprises a closed cylinder, a piston assembly movably disposed in the closed cylinder, and first and second chambers of the variable chambers disposed on opposite sides of the piston assembly; and
wherein the piston assembly for at least one of the plurality of piston-cylinder assemblies comprises at least two pistons disposed about an intermediate chamber.

18. (cancelled):

19. (currently amended): The vehicle suspension stabilizer of claim 17~~claim 18~~, wherein the multiple sets of the variable chambers comprise a first coupled set of the first chambers from a first desired set from the plurality of piston-cylinder assemblies.

20. (withdrawn): The vehicle suspension stabilizer of claim 19, wherein the multiple sets of the variable chambers comprise a second coupled set of the first chambers from a second desired set from the plurality of piston-cylinder assemblies.

21. (currently amended): The vehicle suspension stabilizer of claim 17~~claim 18~~, wherein the multiple sets of the variable chambers comprise a first inversely coupled pair of the first and second chambers from a first desired pair from the plurality of piston-cylinder assemblies.

22. (withdrawn): The vehicle suspension stabilizer of claim 21, wherein the multiple sets of the variable chambers comprise a second inversely coupled pair of the first and second chambers from a second desired pair from the plurality of piston-cylinder assemblies.

23. (withdrawn): The vehicle suspension stabilizer of claim 21, wherein the multiple sets of the variable chambers comprise a second inversely coupled pair of the second and first chambers from the first desired pair.

24. (cancelled):

25. (currently amended): The vehicle suspension stabilizer of claim 17~~claim 24~~, wherein the intermediate chamber comprises a resistance mechanism.

26. (previously presented): The vehicle suspension stabilizer of claim 25, wherein the resistance mechanism comprises the spring assembly.

27. (original): The vehicle suspension stabilizer of claim 25, wherein the resistance mechanism comprises a fluid.

28. (withdrawn): The vehicle suspension stabilizer of claim 17, comprising a resistance mechanism disposed between at least one of the multiple sets.

29. (withdrawn): The vehicle suspension stabilizer of claim 28, wherein the resistance mechanism comprises a diaphragm.

30. (withdrawn): The vehicle suspension stabilizer of claim 28, wherein the resistance mechanism comprises a spring-loaded piston-cylinder assembly.

31. (currently amended): A method for stabilizing a suspension system, comprising:

mechanically coupling a plurality of piston-cylinder assemblies having a spring assembly to a plurality of movable suspension members; and

fluidly intercoupling chambers from the plurality of piston-cylinder assemblies, without active control between the chambers, to provide stabilization between the plurality of movable suspension members;

wherein each of the plurality of piston-cylinder assemblies comprises a closed cylinder, a piston assembly movably disposed in the closed cylinder, and first and second chambers disposed on opposite sides of the piston assembly; and

wherein the piston assembly for at least one of the plurality of piston-cylinder assemblies comprises at least two pistons disposed about an intermediate chamber.

32. (currently amended): The method of claim 31, wherein mechanically coupling the plurality of piston-cylinder assemblies comprises linking the piston assemblies movably disposed in each of the plurality of piston-cylinder assemblies to the plurality of movable suspension members, the plurality of piston-cylinder assemblies comprising first and second chambers disposed about the piston assembly.

33. (original): The method of claim 32, wherein mechanically coupling the plurality of piston-cylinder assemblies comprises positioning the plurality of piston-cylinder assemblies to facilitate interaction between the plurality of movable suspension members and the piston assemblies.

34. (original): The method of claim 33, wherein fluidly intercoupling chambers comprises coupling a first conduit to a first chamber pair from a first pair of piston-cylinder assemblies from the plurality of piston-cylinder assemblies.

35. (original): The method of claim 34, wherein coupling the first conduit to the first chamber pair comprises intercoupling the first chambers from the first pair.

36. (withdrawn): The method of claim 35, wherein fluidly intercoupling chambers comprises coupling a second conduit to a second chamber pair from a second pair of piston-cylinder assemblies from the plurality of piston-cylinder assemblies.

37. (original): The method of claim 34, wherein coupling the first conduit to the first chamber pair comprises intercoupling first and second chambers from the first pair.

38. (original): The method of claim 37, wherein fluidly intercoupling chambers comprises coupling a second conduit to a second chamber pair of the first and second chambers from the first pair, the first and second chamber pairs comprising inverse pairs of the first and second chambers from the first pair.

39. (original): The method of claim 31, comprising distributing a force, which is exerted on at least one member of the plurality of movable suspension members, between at least two members of the plurality of movable suspension members.

40. (original): The method of claim 39, wherein distributing the force comprises fluidly transmitting the force through a desired stabilizer set of piston-cylinder assemblies of the plurality of piston-cylinder assemblies coupled to the at least two members.

41. (original): The method of claim 40, wherein fluidly transmitting the force comprises facilitating balanced motion of the at least two members.

42. (original): The method of claim 41, wherein facilitating balanced motion of the at least two members comprises utilizing the desired stabilizer set to provide multiple cross-compensation between the at least two members.

43. (currently amended): A method for stabilizing a vehicle, comprising:
hydraulically and springably moving, without active control, a plurality of piston-cylinder assemblies to cross-balance orientations of a plurality of suspension members in response to a load exerted on a first member of the plurality of suspension members;

wherein each of the plurality of piston-cylinder assemblies comprises a closed cylinder, a piston assembly movably disposed in the closed cylinder, and first and second chambers disposed on opposite sides of the piston assembly; and

wherein the piston assembly for at least one of the plurality of piston-cylinder assemblies comprises at least two pistons disposed about an intermediate chamber.

44. (previously presented): The method of claim 43, wherein hydraulically and springably moving comprises passively hydraulically moving a second member of the plurality of suspension members in response to movement of the first member caused by the load.

45. (previously presented): The method of claim 44, wherein hydraulically and springably moving comprises passively hydraulically moving the first member in response to movement of the second member.

46. (previously presented): The method of claim 45, wherein hydraulically and springably moving comprises distributing the load between the first and second members.

47. (original): The method of claim 46, wherein distributing the load comprises distributing a lateral load between passenger and driver sides of the vehicle.

48. (cancelled)

49. (currently amended): A method of forming a suspension stabilizer for a vehicle, comprising:

providing a plurality of piston-cylinder assemblies, each comprising multiple chambers and at least one spring assembly disposed about a piston assembly, wherein providing the plurality of piston-cylinder assemblies comprises:

forming first and second closed chambers about the piston assembly and extending a linkage from the piston assembly through and outwardly from an outer wall of at least one of the plurality of piston-cylinder assemblies; and

providing an intermediate chamber between first and second pistons of the piston assembly to compensate for volume differentials; and

passively intercoupling chambers of the plurality of piston-cylinder assemblies to provide crosswise stabilization, without pumping assistance, between vehicle suspension members connectable to the plurality of piston-cylinder assemblies.

50. (cancelled):

51. (cancelled):

52. (currently amended): The method of claim 49~~claim 51~~, wherein providing the intermediate chamber comprises disposing a resistance mechanism between the first and second pistons.

53. (previously presented): The method of claim 49, wherein passively intercoupling chambers comprises coupling a first conduit to first chambers from a first pair of piston-cylinder assemblies from the plurality of piston-cylinder assemblies.

54. (previously presented/withdrawn): The method of claim 53, wherein passively intercoupling chambers comprises coupling a second conduit to first chambers from a second pair of piston-cylinder assemblies from the plurality of piston-cylinder assemblies, wherein each of the first and second pairs are configured for hydraulic interaction with first and second members of the vehicle suspension members.

55. (previously presented): The method of claim 49, wherein passively intercoupling chambers comprises coupling a first conduit to first and second chambers from a first pair of piston-cylinder assemblies from the plurality of piston-cylinder assemblies.

56. (previously presented): The method of claim 55, wherein passively intercoupling chambers comprises coupling a second conduit to the first and second chambers from the first pair, the first and second conduits coupling inverse pairs of the first and second chambers from the first pair.

57. (previously presented) The stabilizer system of claim 1, wherein the first and second piston-cylinder assemblies comprise a working medium that is moved through the first and second conduits only in response to loads on the first and second movable suspension members.

58. (previously presented) The stabilizer system of claim 1, wherein the spring assembly comprises a coil spring.

59. (previously presented) The vehicle stabilizer system of claim 17, comprising a working medium that is moved between the plurality of piston-cylinder assemblies without assistance by a pump.

60. (previously presented) The vehicle stabilizer system of claim 17, comprising a working medium that is moved between the plurality of piston-cylinder assemblies without external feedback influence.

61. (previously presented) A system for stabilizing suspension of a vehicle, comprising:

a first cylinder having a first chamber and a second chamber separated by a first piston movably disposed along the first cylinder, wherein the first piston has a first linkage extending through the first chamber and out of the first cylinder, wherein the first linkage is configured to couple with a first suspension member of the vehicle;

a second cylinder having a third chamber, a fourth chamber, and a fifth chamber, wherein the third and fourth chambers are separated by a second piston movably disposed along the second cylinder, wherein the fourth and fifth chambers are separated by a third piston movably disposed along the second cylinder, wherein the second piston has a second linkage extending through the third chamber and out of the second cylinder, wherein the second linkage is configured to couple with a second suspension member of the vehicle;

a spring disposed between the second and third pistons;

a first conduit coupled to the first chamber and to the fifth chamber; and

a second conduit coupled to the second chamber and to the third chamber, wherein the system is configured to stabilize the first and second suspension members

without external feedback influence on the passage of a working medium passing through the first or second conduits.

62. (previously presented) The system of claim 61, wherein the first and second conduits consist essentially of substantially continuous conduits configured to exchange a working medium between the first and second cylinders.

63. (previously presented) The system of claim 61, wherein the first and second conduits are configured to exchange the working medium passively between the first and second cylinders without a pump or electronic control.

64. (previously presented) The system of claim 61, wherein the first piston comprises a first piston member fixedly coupled to the first linkage, a second piston member offset from the first piston member, and a spring member disposed between the first and second piston members, wherein the first and second piston members define another separate chamber between the first and second chambers.

65. (previously presented) The system of claim 61, wherein the spring comprises a coil spring.